In the Abstract:

Replace the Abstract with the following new Abstract.

A projection optical apparatus is provided that is fast and of satisfactory illumination efficiency albeit being of simple construction and compact size by making use of a diffuse hologram that projects the exit pupil of a projection optical system onto a viewing position and magnifying the thus projected exit pupil image to a limited area. The apparatus comprises at least three projection optical systems for magnifying and projecting an image appearing on a display device, and further comprises a concave mirror for projecting exit pupils of the projection optical systems onto a viewer side and a diffusing plate comprising a transmission hologram, which is located near to images projected through the projection optical systems for magnifying the images of the exit pupils of the projection optical system upon projected by the concave mirror. The image of the exit pupil of each projection optical system projected by the concave mirror and magnified through the diffusing plate comprising a transmission hologram is projected in a mutually, at least partially overlapping fashion.